

REMARKS

Claims 1-68 are pending in this application. Claims 1-27 and 37-68 have been allowed. Claims 31-36 have been found to present allowable subject matter and were said to be allowable if a suitable terminal disclaimer is filed. Claims 28, 29-31, 33, 34 and 36 have been rejected. Claims 1, 28, 37, 43 and 48 are independent.

The specification has been revised to include a claim to the priority of parent application no. 10/045,703. The priority of application no. 10/045,703 was claimed in the original applications papers filed on April 16, 2004.

The Examiner is thanked for the allowance of claims 1-27 and 37-68, and the indicated allowability of claims 31-36. Claims 1-27 and 37-68 have been maintained unchanged, and so are felt to remain allowable at least for the reasons already given. Claims 31-36 are allowable because, as explained below, a terminal disclaimer is not needed; these claims patentably distinguish over the art applied in the double patenting rejection.

Several of the references applied in the Office Action, JP 8-174860 and U.S. Patent Nos. 6,000,788 and 6,193,364, are commonly assigned along with the present application. To the extent this response discusses those references, such discussion involves the general teachings of those references, and should not be construed to limit the scope of the claims of those references or their counterparts. If any of those references is characterized as teaching a particular feature or mode of operation, the claims of that reference and its counterparts should not be construed to require that feature or mode of operation unless the feature or mode of operation is specifically recited in the claims. In this regard, it should be noted that the claims of a patent are not limited to embodiments disclosed, and that limitations in the specification are not to be imported into the claims. Also, an inventor need not foresee all uses for his/her invention.

**The Double
Patenting Rejection**

Claims 28, 29, 31, 33, 34 and 36 have been rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-31 of U.S. patent no. 6,000,788, and over claims 1-7 of U.S. Patent No. 6,193,364. Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

It must be kept in mind that a double-patenting rejection of this type is not proper just because the application claims are similar to claims in a commonly-assigned patent. M.P.E.P. § 804(II)(B)(1) imposes a higher standard; double patenting only is appropriate if the applications claims "define an invention that is merely an obvious variation of an invention claimed in the patent", or, in other words, "the claimed subject matter is not patentably distinct from the subject matter claimed in a commonly owned patent". As explained below, that is not the case here.

It is also important to note that because a double patenting rejection involves the questions of whether application claims are patentably distinct from the claims of a patent, the comparison is made with the individual patent claims, not the claims as a group, which appears to have been done in the Office Action. In this regard, note that M.P.E.P. § 804(II)(B)(1) states one must "(A) Determine the scope and content of a patent claim relative to a claim in the application at issue" and "(B) Determine the differences between the scope and content of the patent claim as determined in (A) and the claim in the application at issue" (emphasis added). So clearly, the inquiry is on a claim-by-claim basis.

Note, in particular, that this section of the M.P.E.P. speaks of the patent claims in the singular; it is clear that the claims are to be compared individually.

It is understood the '788 and '364 patent claims were applied separately in this rejection. If that is not so, and the Examiner intended otherwise, the Examiner is requested to inform the undersigned of the same, so that a suitable supplemental reply can be filed.

Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

This rejection is not well-taken; those skilled in the art will appreciate that the present claims are patentably distinct from the claims of the '788 and '364 patents.

For example, application 28, the sole rejected independent claim, provides an ink cartridge for an ink jet recording device having a recording head. The ink cartridge has a container with an ink chamber, an ink supply port for supplying ink to the recording head, an ink flow passage connecting the ink supply port to the ink chamber, and an air communication passage in fluid communication with the ink chamber and the ambient atmosphere. A negative pressure generating mechanism is disposed in the container and is located within the ink flow passage, and an air communication valve is connected to the air communication passage. The air communication valve normally is closed, and the air communication valve is adapted to be opened when the ink cartridge is mounted to the recording device.

It should be noted that application claim 28 provides for both a negative pressure generating mechanism in the ink flow passage and an air communication valve connected to the air communication passage.

Claims 1, 8, 9 and 25 of the '788 patent speak only of a valve assembly; those skilled in the art will understand that these claims only refer to valves which regulate ink flow, not air flow. So claims 1, 8 and 9, taken separately, in no way even suggest the aspects of application claim 28 that relate to the air communication valve connected to the air passage.

Claims 6 and 19 of the '788 patent speaks of an ink cartridge with an elastic membrane separating from an atmosphere communicating hole (there is no mention of a valve for regulating ink flow). These claims, taken separately, in no way suggests the negative pressure generating mechanism disposed in the ink flow passage (which can be thought of as a valve regulating ink flow).

While claims 13-17 of the '788 patent, all ultimately dependent upon claim 1, and claim 26, dependent upon claim 25, involve a membrane for closing an atmosphere communicating hole, those claims differ in scope from application claim 28. In particular, application claim 28 states the air communication valve is normally closed; the structure set forth in the '788 patent claims differs, and it is believed such structure normally would be open when the cartridge is held in the upright position.

Claims 21, 23 and 28-30 of the '788 patent, taken separately, speak of sealing valves located in the ink supply ports. This in no way suggests the structure recited in application claim 28 that relate to the air communication valve connected to the air passage.

Nor do the other claims of the '788 patent suggest the aspects of this invention which are not found in the other claims.

Claims 1, 3, 5 and 7 of the '364 patent only speak of a negative pressure generating mechanism (or structure in a second ink accumulating chamber), which will be understood to regulate ink flow. Accordingly, these claims do not even suggest the aspects of application claim 28 involving the air communication valve connected to the air passage.

Nor do the other claims of the '364 patent suggest the aspects of this invention which are not found in claims 1, 3, 5 or 7.

For all the foregoing reasons, it is respectfully submitted that the present invention is patentably distinct from the claims of the '788 and '364 patents. Accordingly, favorable reconsideration and withdrawal of this rejection are respectfully requested.

**The Rejection Under
35 U.S.C. § 102(a)**

Claims 28 and 29 have been rejected under 35 U.S.C. § 102(a) as being anticipated by Japanese Laid-Open patent appln. no. 8-174860 to Iida.² Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

As described in claim 28, this invention involves an ink cartridge for an ink jet recording device having a recording head. Such an ink cartridge has a container with an ink chamber, an ink supply port for supplying ink to the recording head, an ink flow passage connecting the ink supply port to the ink chamber, and an air communication passage in fluid communication with the ink chamber and the ambient atmosphere. A negative pressure generating mechanism is disposed in the container and is located within the ink flow passage, and an air communication valve is connected to the air communication passage. The air communication valve normally is closed, and the air communication valve is adapted to be opened when the ink cartridge is mounted to the recording device.

Iida, it should be noted, is a counterpart to both the '788 and '364 patents applied above; Iida is the publication of Japanese patent appln. 7-258101, which is one of the two Japanese applications whose priority is claimed in the '788 and '364 Iida patents. Accordingly, in evaluating Iida the undersigned has considered the teachings of the '788 and '364 Iida patents.

² Although the Office Action refers to this reference as "Yuji", it is noted that "Yuji" is the inventor's first name. Consequently, it is believed more appropriate to refer to this reference as "Iida", that being the inventor's last name.

Iida, as explained in the '788 Iida patent at col. 5, line 50, through col. 6, line 19, teaches an ink container 1 having an atmosphere communicating hole 14 and membrane valve 33 which cooperate so that the atmosphere communicating hole normally is opened and is blocked only when the ink container is positioned (say, tilted or turned) so that ink in the ink chamber 4 comes into contact with the lid member 13, the flexible membrane valve 33 receiving pressure from the ink and moving toward the lid member. As a result, the flexible membrane valve 33 contacts the recess 30 around the atmosphere communicating hole 14, thereby closing that hole.

Those skilled in the art will appreciate that this type of valve is different from, and in no way suggestive of, the valve recited in claim 28. In Iida, the position of the ink container controls whether the valve is open or closed, not whether the ink container is mounted on the recording device. That is, one skilled in the art will understand that if Iida's container is held in its normal upright position, the valve will be open regardless of whether the ink container is or is not mounted on the recording device.

In contrast, claim 28 provides for a valve that is opened when the ink cartridge is mounted to the recording device. This feature, it will be appreciated, is not even suggested by the cited Iida reference.

It is well-accepted that for a reference to anticipate a claimed invention, all the features of that invention must be identically disclosed in the reference. Here, Iida does not even suggest at least the aspects of the invention relating to the valve which opens when the ink cartridge is mounted on the recording device. Accordingly, Iida does not anticipate the present invention.

Claim 29 depends from and so incorporates by reference all the features of claim 28, including those features which have just been shown to avoid Iida. Claim 29 is therefore patentable over this reference at least for the same reasons as claim 28.

For all the foregoing reasons, favorable reconsideration and withdrawal of this rejection are respectfully requested.

**The Rejection Under
35 U.S.C. § 103(a)**

Claim 30 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Iida in view of U.S. Patent No. 4,628,333 to Terasawa. Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

Claim 30 depends from and so incorporates by reference all the features of claim 28, including those features which have just been shown to avoid Iida.

This rejection is respectfully traversed on grounds the two cited references, Iida and Terasawa, are not properly combined. That is, the asserted combination of Iida and Terasawa is improper and contrary to M.P.E.P. § 2143.01(V and VI), and so this rejection cannot stand.

M.P.E.P. § 2143.01(V), discussing the propriety of an asserted combination of references, states that the proposed modification cannot render the prior art unsatisfactory for its intended purpose. Here, Iida's valve is specifically designed to be **open** whenever the ink container is held in an upright position, and to be **closed** whenever the container is oriented so that ink contacts the valve membrane (see Iida '788 at col. 5, line 58, through col. 6, line 19).

In contrast, Terasawa teaches an ink jet head with an ink chamber having a valve that seals a vent hole. One skilled in the art would understand Terasawa's valve is normally

closed ("A valve 10, which is normally contacting the valve seat 1C by virtue of a spring force, is provided"; col. 2, lines 36-38, and also col. 2, lines 44-46). As Terasawa goes on to explain, the valve only opens when a difference in pressure arises between the vent portion and the air layer.

Applicants therefore respectfully submit it would be improper to modify Iida, which provides a valve that is normally open when the ink container is in an upright posture, with the valve from Terasawa, which normally is **closed**, and only opens if there is a pressure difference.

The asserted combination of Iida and Terasawa also is contrary to M.P.E.P. § 2143.01(VI), which states the proposed modification cannot change the principle of operation of a reference.

As noted above, Iida's ink container has a valve that normally is open, and which only closes when the ink container is placed in a position so that ink contacts the valve's membrane. Terasawa, as also noted above, provides a spring-biased valve that normally is closed, and which only opens when there is a pressure differential across the valve. Those skilled in the art will appreciate that these two valves operate in different ways; Iida's principle of operation is that the valve only closes when ink contacts the valve (this is done to prevent ink leakage from the vent opening). Terasawa's principle of operation is different; the valve is kept closed and only opens when it is necessary to relieve a pressure difference across the valve. To modify or replace Iida's valve to operate in the manner of Terasawa's valve would impermissibly alter the principle of operation of Iida's valve (valve is normally open and only closes due to contact with the ink).

Accordingly, the asserted combination of Iida and Terasawa is contrary to the M.P.E.P. and is not well taken.

For all the foregoing reasons, favorable reconsideration and withdrawal of this rejection are respectfully requested.

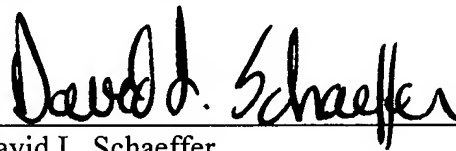
CONCLUSION

Other than the extension fee paid herewith, no fees are believed to be due in connection with the filing of this paper. Nevertheless, should the Commissioner deem any fee to be now or hereafter due, the Commissioner is authorized to charge all such fees to Deposit Account No. 19-4709.

Favorable consideration and prompt allowance of this application is respectfully requested.

In the event that there are any questions, or should additional information be required, please contact Applicants' attorney at the number listed below.

Respectfully submitted,

A handwritten signature in black ink, reading "David L. Schaeffer", is written over a horizontal line.

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